REMARKS

Claims 1, 2 and 4-8 are pending in the present application. Claims 7 and 8 are withdrawn. Claim 1 is amended above. Claim 3 is canceled. No new matter is added by the claim amendments. Entry is respectfully requested.

Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) in view of Christensen *et al.* (6,121,659), Hsu *et al.* (5,804,858) and Noble (6,156,589). Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) in view of Christensen *et al.*, Hsu *et al.*, Noble and Wolf (*"Silicon Processing for the VLSI Era"*). Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) in view of Christensen, *et al.*, Hsu, *et al.*, Noble and Lynch *et al.* (4,646,123). Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) in view of Christensen, *et al.*, Hsu, *et al.*, Noble, Lynch *et al.* and Brown *et al.* (6,476,445). In view of the amendments to the claims and the following remarks reconsideration of the rejections is respectfully requested.

The applicants' invention is directed to a silicon-on-insulator (SOI) MOSFET. The MOSFET includes a substrate, a buried oxide layer formed on the substrate, a body formed on the buried oxide layer, wherein the body is an active region of a transistor. A gate oxide layer is formed on the body, and a gate is formed on a gate oxide layer. An isolation region is formed adjacent to and at least partially surrounding the body. A body contact supplies power to the body. The body contact is at least partially surrounded by a field oxide region which is formed in the isolation region. The body contact is formed by forming a trench that perforates the isolation region, the field oxide region, the body and the buried oxide layer and filling the trench with a conductive material so that the body is electrically connected to the semiconductor substrate. The conductive material filling the trench can include a combination layer of at least two of the following layers: a metal layer, a tungsten layer and a silicon epitaxial layer.

The claims have been amended to more clearly specify the structure of the invention. Specifically, the claims are amended to specify that the conductive material filling the trench includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer. None of the prior art references, taken alone or in combination, teaches or suggests the features of the invention set forth in the amended claims.

The applicants' prior art drawings do not teach or suggest the body contact of the amended claims. They also do not teach or suggest the field oxide region formed in an isolation region and at least partially surrounding the body contact. They also do not teach or suggest a trench perforating an isolation region, a field oxide region, a body and a buried oxide layer, wherein the trench is filled with a conductive material which includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer, as now set forth in the amended claims.

Christensen, *et al.* also fail to teach or suggest the invention set forth in the amended claims. Specifically, Christensen, *et al.* do not teach or suggest forming a trench perforating a body and a buried oxide layer, and filling the trench with a conductive material which includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer, as now set forth in the amended claims. Accordingly, Christensen, *et al.* also fail to teach or suggest the invention set forth in the amended claims.

Hsu, *et al.* discloses a body node contact in a SOI device. However, Hsu, *et al.* do not teach or suggest a body contact trench filled with a conductive material which includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer, as now set forth in the amended claims.

Noble discloses an approach to forming a SOI device that comprises forming a trench 214 and filling the trench with epitaxial silicon 250. There is no disclosure in Noble of a trench filled with a conductive material that includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer, as set forth in the amended claims.

None of the APA, Christensen, *et al.*, Hsu, *et al.* and Noble teaches or suggests the invention set forth in the amended claims. That is, none of the references teaches or suggests the body contact

of the claimed invention in which a trench is filled with a conductive material that includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer. Accordingly, there is no combination of the references which would provide such teaching or suggestion. Therefore, it is believed that the amended claims are allowable over the cited references, and reconsideration of the rejections of claims 1, 3 and 4 under 35 U.S.C. § 103(a) based on the APA, Christensen, *et al.*, Hsu *et al.* and Noble is respectfully requested.

With regard to claim 2, Wolf also fails to teach or suggest the body contact set forth in the amended claims. Wolf discloses a gate that is comprised of metal or polysilicon. However, Wolf does not teach or suggest a body contact trench filled with a conductive material which includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer, as now set forth in the amended claims. Accordingly, the combination of the Applicant's Prior Art Drawings, Christensen, *et al.*, Hsu, *et al.*, Noble and Wolf fails to teach or suggest the inventions set forth in the amended claims. Accordingly, reconsideration of the rejection of claim 2 under 35 U.S.C. § 103(a) is respectfully requested.

With regard to claim 5, Lynch, *et al.* also fail to teach or suggest the body contact set forth in the amended claims. Lynch, *et al.* disclose a trench that narrows as it deepens. However, Lynch et al. fail to teach or suggest a trench being filled with a conductive material that includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer. Accordingly, the combination of the Applicant's Prior Art Drawings, Christensen, et al., Hsu, et al., Noble and Lynch, *et al.* fails to teach or suggest the inventions set forth in the amended claims. Accordingly, reconsideration of the rejection of claim 5 under 35 U.S.C. § 103(a) is respectfully requested.

With regard to claim 6, Brown *et al.* discloses a trench that narrows in a stepwise manner. However, Brown *et al.* fail to teach or suggest a trench being filled with a conductive material that includes a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer. Accordingly, the combination of the Applicant's Prior Art Drawings, Christensen, *et al.*, Hsu, *et al.*, Noble, Lynch, *et al.*, and Brown, *et al.* fails to teach or suggest the inventions set forth in the

amended claims. Accordingly, reconsideration of the rejection of claim 6 under 35 U.S.C. § 103(a) is respectfully requested.

In view of the amendments to the claims and the foregoing remarks, it is believed that all claims pending in the application are in condition for allowance. Therefore, it is requested that this Amendment be entered and that the case be allowed and passed to issue. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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Mills & Onello, LLP
Eleven Beacon Street, Suite 605
Boston, MA 02108
Telephone: (617) 994-4900
Facsimile: (617) 742-7774

Steven M. Mills
Registration Number 36,610
Attorney for Applicants

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